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PROCEEDINGS *of the* ASSAY COMMISSION

1923

TEST OF UNITED STATES COINAGE EXECUTED DURING THE CALENDAR YEAR 1922

ALSO

LAWS OF THE UNITED STATES RELATING TO THE ANNUAL TEST AND RULES FOR THE ORGANIZATION AND GOVERNMENT OF THE COMMISSION

WASHINGTON
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FEDERAL PUBLICATION

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Treasury Department.
Document No: 2922.
Bureau of the Mint.

II

ASSAY COMMISSION OF 1923.

Hon. Robert B. Armstrong, Washington, D. C.
Mrs. Gloy L. Austill, Indianapolis, Ind.
Hon. Charles O. Bailey, Newbury, Mass.
Mrs. John Gordon Battelle, Columbus, Ohio.
Dr. Charles S. Curtis, Kansas City, Mo.
Mrs. Fletcher Dobyns, Chicago, Ill.
Hon. Winfield T. Durbin, Anderson, Ind.
Mr. J. U. Eldredge, Jr., Ogden, Utah.
Mr. A. S. Hough, Jacksonville, Fla.
Mr. Irwin Kirkwood, Kansas City, Mo.
Dr. George P. Merrill, Smithsonian Institution.
Dr. William Gerry Morgan, Washington, D. C.
Mr. Chester A. McLain, Harvard University.
Mr. H. C. Ogden, Wheeling, W. Va.
Mr. Frank B. Russell, Louisville, Ky.
Dr. S. W. Stratton, Massachusetts Institute of Technology.
Dr. F. L. Thomson, San Antonio, Tex.
Representative Albert H. Vestal.
Mr. Farran Zerbe, Tyrone, Pa.
Hon. J. Whitaker Thompson, judge of the United States District Court for the Eastern District of Pennsylvania (ex officio).
Hon. D. R. Crissinger, Comptroller of the Currency (ex officio).
Mr. B. G. Shields, assayer, United States Assay Office, New York (ex officio).
Hon. F. E. Scobey, *Director of the Mint.*

PROCEEDINGS OF THE ANNUAL ASSAY COMMISSION, 1923.

WEDNESDAY, FEBRUARY 14.

In conformity with section 3547 of the Revised Statutes of the United States, the commission appointed by the President of the United States to examine and test the weight and fineness of the gold and silver coins reserved by the mints at Philadelphia, San Francisco, and Denver during the calendar year 1922 met at the mint at Philadelphia on the 14th day of February, 1923.

The commission was called to order by the Acting Director of the Mint, Miss M. M. O'Reilly, who addressed the commission as follows:

Ladies and gentlemen, I am directed by the Director of the Mint, Hon. F. E. Scobey, to express to you his regret that he is unable to be present at the convening of this commission. Mr. Scobey is detained in the mint at San Francisco, where he is making a study of conditions in that institution. In his absence, and as Acting Director of the Mint, I have the very great privilege of representing him.

The commission is assembled under the following letter of appointment of the commissioners:

TREASURY DEPARTMENT,
Washington, January 16, 1923.

DEAR MR. PRESIDENT: I respectfully recommend that you appoint the following members of the Annual Assay Commission, which will meet at the Philadelphia Mint on the 14th of February, 1923, in accordance with section 3547 of the Revised Statutes: Hon. Robert Armstrong, Washington, D. C.; Mrs. G. L. Austill, Indianapolis, Ind.; Hon. Charles O. Bailey, Newbury, Mass.; Mrs. J. G. Battelle, Columbus, Ohio; Dr. Charles S. Curtis, Kansas City, Mo.; Mrs. Fletcher Dobyns, Chicago, Ill., Hon. Winfield T. Durbin, Anderson, Ind.; Mr. J. U. Eldredge, jr., Ogden, Utah; Mr. A. S. Hough, Jacksonville, Fla.; Mr. Irwin Kirkwood, Kansas City, Mo.; Dr. G. P. Merrill, Smithsonian Institution; Dr. William Gerry Morgan, Washington, D. C.; Mr. Chester A. McLain, Cambridge, Mass.; Mr. H. C. Ogden, Wheeling, W. V.; Mr. Frank Russell, Louisville, Ky.; Dr. S. W. Stratton, Cambridge, Mass.; Dr. F. L. Thomson, San Antonio, Tex.; Hon. Albert H. Vestal, Washington, D. C.; Mr. Farran Zerbe, San Francisco, Calif.; the Comptroller of the Currency, the judge of the district court of the eastern district of Pennsylvania, and the assayer, United States assay office, New York, ex officio members.

The duty of the commission is to test the weight and fineness of the coins reservep by the several mints of the United States during the calendar year 1922. At all of the mints, out of every delivery of coin to the Treasury a certain number of pieces are taken and forwarded under seal to the Philadelphia Mint for examination by the commission in order to secure due conformity in the gold and silver coins to their

respective standards of fineness and weight. The law provides that the commission shall consist of the judge of the district court for the eastern district of Pennsylvania, the Comptroller of the Currency, the assayer of the assay office at New York, and such other persons as the President shall designate.

No compensation is provided for the members of the commission, but their actual and necessary expenses to and from Philadelphia by the most direct route and while in attendance are reimbursed.

Faithfully yours,

A. W. MELLON.

The PRESIDENT,
The White House.

THE WHITE HOUSE,
January 22, 1923.

Approved.

WARREN G. HARDING.

Before calling the roll I should like to say, for the benefit of those who are serving for the first time, that the law requires that the coins reserved for the Annual Assay Commission shall be one piece from each 1,000 gold pieces and one piece from each 2,000 silver pieces delivered by the coiner to the superintendent of the mint. The coins may not be selected; they are taken indiscriminately, sealed, and placed in a box which is kept in the joint custody of the superintendent and the assayer.

The coinage of silver dollars has been the principal feature of the year's work and amounted to about 84,000,000 pieces. Gold coins amounting to about $80,000,000 were executed and a limited number of special gold and silver coins for the Grant Memorial Association.

It will obviously be impracticable for the commission to undertake to test all of the coins reserved. They are all placed at your disposal, however, that you may select as many as you see fit to test. In order that the work may be expedited, the commission will be divided into three committees, one on counting, one on weighing, and one on assaying. The committee on counting will receive the packages of coins from the superintendent and after verifying their contents by the transcripts accompanying the packages, deliver to the committee on weighing and the committee on assaying the coins chosen for trial. A statement of the year's coinage and a statement of the coins reserved are before each member of the board.

The commission will have from the superintendent and his staff every possible assistance in order that the work of the commission may be carried on without delay or inconvenience

I am asked to say that after the commission has been organized the superintendent of the mint will take great pleasure in escorting the members through the mint, in order that those serving for the first time may be given an idea of the details involved in the manufacture of coins. The inspection will be of interest in connection with the work about to be undertaken by the commissioners.

At the request of Miss O'Reilly, the roll of the commission was called, the following members answering to their names:

Mrs. Austill, Mrs. Battelle; Messrs. Bailey, Curtis, Hough, Merrill, Morgan, McLain, Russell, Stratton, Vestal, Zerbe, and Mr. Shields, ex officio member. Mr. Armstrong, who had been unavoidably detained, appeared before the close of the session.

The following, for various reasons, were unable to attend and expressed to the Director of the Mint their regrets: The Comptroller of the Currency and the judge of the district court of the eastern district of Pennsylvania, ex officio members, and Mrs. Fletcher Dobyns, Messrs. Durbin, Eldredge, Kirkwood, Ogden, and Thomson.

A quorum being present, Miss O'Reilly declared the commission duly assembled for its permanent organization and called for nominations for chairman of the commission.

On motion of Doctor Merrill, seconded by Mr. Shields, Congressman Vestal was elected chairman.

On being called upon to take the chair, Congressman Vestal addressed the commission as follows:

Miss O'Reilly, ladies, and gentlemen of the commission, I thank you for the honor which you have conferred upon me in selecting me as chairman of the commission. I have had the honor to serve on the Annual Assay Commission the last three years and have found the work very interesting. The first time I served the commission was composed entirely of gentlemen, but we have been progressing along those lines and this is the third year we have been favored by the appointment of ladies on the commission, and to-day we are especially honored in having Miss O'Reilly, Acting Director of the Mint, here to open the meeting.

I have nothing special to say at this time. We are here to transact the business of the Government in carrying out the provisions of the law, and, after the commissioners have been escorted through the mint by Superintendent Styer, for which purpose we will now recess, we will proceed with the business of the commission.

Mrs. V. H. Carpenter was designated to act as secretary of the commission.

The commission was called to order by the chairman at 2.30 o'clock.

A copy of the minutes of the previous session having been placed before each member, the reading of those minutes was dispensed with, and the chairman, in accordance with the rules adopted by the Assay Commission in 1921 for organization and government of the commission, appointed the following committees:

Committee on counting.—Mrs. Austill, chairman, and Messrs. Bailey, Hough, Russell, and Zerbe.

Committee on weighing.—Doctor Stratton, chairman, and Messrs. Morgan and McLain.

Committee on assaying.—Mr. Shields, chairman, and Messrs. Curtis, and Merrill.

Committee on resolutions.—Mrs. Battelle, chairman, and Messrs. Armstrong, Bailey, and Curtis.

In order that the committees might enter upon the discharge of their respective duties, the commission adjourned until Thursday February 15.

The only change in the personnel of mint officials during the calendar year 1922 was announced by Miss O'Reilly, Acting Director

of the Mint, in letter dated February 14, 1923, which reads as follows:

To the BOARD OF ASSAY COMMISSIONERS.

LADIES AND GENTLEMEN: I have the honor to inform you that during the calendar year 1922 no changes occurred in the officers of the coinage mints who are responsible for the coinage.

Hon. Raymond T. Baker retired as Director of the Mint at the expiration of his term of office on March 19, 1922, and was succeeded by Hon. F. E. Scobey.

Respectfully,

MARY M. O'REILLY,
Acting Director of the Mint.

Coinage of the United States mints during the calendar year 1922.

Denomination.	Philadelphia.		San Francisco.	
	Pieces.	Value.	Pieces.	Value.
GOLD.				
Double eagles	1,375,500	$27,510,000.00	2,658,000	$53,160,000.00
Dollars, Grant Memorial [1]	10,016	10,016.00	.....	.....
Total gold	1,385,516	27,520,016.00	2,658,000	53,160,000.00
SILVER.				
Standard silver dollars	51,737,000	51,737,000.00	17,475,000	17,475,000.00
Half dollars, Grant Memorial [1]	100,061	50,030.50	.....	.....
Total silver	51,837,061	51,787,030.50	17,475,000	17,475,000.00
Total domestic coinage	53,222,577	79,307,046.50	20,133,000	70,635,000.00

Denomination.	Denver.		Total.	
	Pieces.	Value.	Pieces.	Value.
GOLD.				
Double eagles	.....	.....	4,033,500	$80,670,000.00
Dollars, Grant Memorial [1]	.....	.....	10,016	10,016.00
Total gold	.....	.....	4,043,516	80,680,016.00
SILVER.				
Standard silver dollars	15,063,000	$15,063,000.00	84,275,000	84,275,000.00
Half dollars, Grant Memorial [1]	.....	.....	100,061	50,030.50
Total silver	15,063,000	15,063,000.00	84,375,061	84,325,030.50
MINOR.				
1-cent bronze	7,160,000	71,600.00	7,160,000	71,600.00
Total domestic coinage	22,223,000	15,134,600.00	95,578,577	165,076,646.50

[1] Act of Feb. 2, 1922.

Annual assay coins reserved at various mints during calendar year 1922.

Denomination.	Philadelphia.		San Francisco.		Denver.	
	Pieces.	Value.	Pieces.	Value.	Pieces.	Value.
GOLD.						
Double eagles	1,388	$27,760.00	2,659	$53,180.00	.....	.....
Dollars	12	12.00	.....	.....	.....	.....
SILVER.						
Dollars	25,988	25,988.00	8,738	8,738.00	7,546	$7,546.00
Half dollars	53	26.50	.....	.....	.....	.....
	27,441	53,786.50	11,397	61,918.00	7,546	7,546.00

Thursday, February 15.

The commission convened at 9 a. m., the several committees continuing their work throughout the day.

Friday, February 16.

The commission was called to order by the chairman at 2.30 p. m.

The reports of the various committees were submitted and accepted by the commission as satisfactory.

The committee reports in full, as accepted by the commission, are as follows:

COMMITTEE ON COUNTING.

To the Chairman and Members of the Board of Assay Commissioners:

Your committee on counting respectfully reports that the packages containing the pieces reserved by the several mints for the trial of coins, in accordance with section 3539 of the Revised Statutes of the United States, were delivered to us by the superintendent of the mint at Philadelphia and upon comparison with the transcripts kept by the Director of the Mint were found to be correct as to date, number of delivery, number of pieces, and denomination.

The verification of the packages being completed, they were delivered to the committees on weighing and assaying. In the reports of those committees will be found an account of the disposition of these coins.

The following table gives the packages opened and coins counted:

Mint at Philadelphia.

GOLD PIECES.

Date.	Double eagle.	Dollar.	Date.	Double eagle.	Dollar.
1922.			1922.		
Mar. 29	.....	[1] 12	June 7	65	.....
Mar. 30	3	.....	Sept. 9	13	.....
Mar. 31	5	.....	Sept. 14	30	.....
Apr. 1	8	.....	Sept. 15	38	.....
Apr. 6	8	.....	Sept. 19	19	.....
Apr. 7	8	.....	Sept. 22	30	.....
Apr. 14	8	.....	Sept. 26	25	.....
Apr. 24	8	.....	Sept. 30	75	.....
Apr. 29	25	.....	Oct. 5	75	.....
May 6	25	.....	Oct. 7	105	.....
May 13	25	.....	Oct. 12	100	.....
May 19	33	.....	Oct. 19	90	.....
May 27	35	.....	Oct. 21	90	.....
May 31	2	.....	Oct. 27	63	.....

[1] Grant Memorial.

Mint at Philadelphia—Continued.

SILVER PIECES.

Date.	Dollar.	Half dollar.	Date.	Dollar.	Half dollar.
1922.			1922.		
Feb. 13	50	.....	July 24	100	.....
Feb. 15	63	.....	July 25	125	.....
Feb. 20	100	.....	July 27	125	.....
Feb. 24	100	.....	July 28	125	.....
Feb. 25	100	.....	July 31	125	.....
Feb. 27	100	.....	Aug. 1	125	.....
Feb. 28	100	.....	Aug. 2	125	.....
Mar. 2	75	.....	Aug. 4	125	.....
Mar. 4	75	.....	Aug. 7	138	.....
Mar. 6	75	.....	Aug. 9	150	.....
Mar. 8	75	.....	Aug. 14	125	.....
Mar. 10	75	.....	Aug. 18	150	.....
Mar. 11	75	.....	Aug. 22	150	.....
Mar. 14	75	.....	Aug. 28	75	.....
Mar. 15	75	.....	Aug. 31	200	.....
Mar. 16	75	.....	Sept. 6	75	.....
Mar. 20	.....	[1] 3	Sept. 9	75	.....
Mar. 22	.....	[1] 23	Sept. 11	38	.....
Mar. 24	75	.....	Sept. 14	75	.....
Mar. 30	.....	[1] 16	Sept. 18	38	.....
Mar. 31	.....	[1] 11	Sept. 23	83	.....
Apr. 1	50	.....	Sept. 25	50	.....
Apr. 3	50	.....	Sept. 27	83	.....
Apr. 5	75	.....	Sept. 29	83	.....
Apr. 7	75	.....	Sept. 30	93	.....
Apr. 8	75	.....	Oct. 2	43	.....
Apr. 11	75	.....	Oct. 6	88	.....
Apr. 13	75	.....	Oct. 9	88	.....
Apr. 14	75	.....	Oct. 11	88	.....
Apr. 25	100	.....	Oct. 12	88	.....
Apr. 29	100	.....	Oct. 20	100	.....
May 4	100	.....	Oct. 23	100	.....
May 6	100	.....	Oct. 24	100	.....
May 8	100	.....	Oct. 28	150	.....
May 11	100	.....	Oct. 30	150	.....
May 12	100	.....	Nov. 1	150	.....
May 19	100	.....	Nov. 2	150	.....
May 22	100	.....	Nov. 3	150	.....
May 24	100	.....	Nov. 6	150	.....
May 27	100	.....	Nov. 9	150	.....
May 29	100	.....	Nov. 14	150	.....
May 31	100	.....	Nov. 20	150	.....
June 1	100	.....	Nov. 25	150	.....
June 2	100	.....	Nov. 28	163	.....
June 3	100	.....	Nov. 29	175	.....
June 6	100	.....	Dec. 1	150	.....
June 7	100	.....	Dec. 2	150	.....
June 8	100	.....	Dec. 6	175	.....
June 10	101	.....	Dec. 8	150	.....
July 12	100	.....	Dec. 13	150	.....
July 14	100	.....	Dec. 15	150	.....
July 17	100	.....	Dec. 21	150	.....
July 19	125	.....	Dec. 23	75	.....
July 21	125	.....	Dec. 30	160	.....
July 22	63	.....			

[1] Grant Memorial.

Mint at San Francisco.

GOLD PIECES.

Date.	Double eagles.	Date.	Double eagles.	Date.	Double eagles.	Date.	Double eagles.
1922.		1922.		1922.		1922.	
Mar. 27	10	Apr. 29	28	June 5	30	Aug. 1	15
Mar. 28	18	May 2	30	June 6	35	Aug. 2	20
Mar. 29	30	May 5	30	June 7	30	Aug. 3	20
Mar. 30	30	May 6	29	June 8	45	Aug. 5	15
Mar. 31	32	May 9	18	June 9	30	Aug. 7	15
Apr. 1	10	May 10	16	June 10	30	Aug. 10	31
Apr. 3	15	May 17	30	July 20	20	Aug. 11	30
Apr. 7	30	May 19	15	July 21	20	Aug. 12	15
Apr. 10	10	May 20	21	July 22	15	Aug. 14	15
Apr. 11	27	May 22	30	July 24	15	Aug. 15	8
Apr. 13	25	May 23	28	July 25	20	Aug. 30	55
Apr. 17	21	May 25	38	July 26	20	Sept. 5	30
Apr. 18	21	May 27	30	July 27	20	Sept. 6	35
Apr. 19	20	May 31	32	July 28	15	Sept. 7	40
Apr. 20	16	June 1	17	July 29	15	Sept. 8	75
Apr. 24	25	June 2	30	July 31	20	Sept. 9	34

Mint at San Francisco—Continued.

SILVER PIECES.

Date.	Dollars.	Date.	Dollars.	Date.	Dollars.	Date.	Dollars.
1922.		1922.		1922.		1922.	
Feb. 23	30	Mar. 25	43	Sept. 30	40	Nov. 17	80
Feb. 24	50	Aug. 16	35	Oct. 2	75	Nov. 21	75
Feb. 25	40	Aug. 17	50	Oct. 3	65	Nov. 22	80
Feb. 27	40	Aug. 18	50	Oct. 5	75	Nov. 24	80
Feb. 28	50	Aug. 19	25	Oct. 7	70	Nov. 29	95
Mar. 1	50	Aug. 21	40	Oct. 10	65	Dec. 1	50
Mar. 2	60	Aug. 22	40	Oct. 11	65	Dec. 5	85
Mar. 3	65	Aug. 26	35	Oct. 18	80	Dec. 8	80
Mar. 4	55	Aug. 28	50	Oct. 21	75	Dec. 12	75
Mar. 6	75	Sept. 11	30	Oct. 26	85	Dec. 14	75
Mar. 8	65	Sept. 13	75	Oct. 30	90	Dec. 18	75
Mar. 13	40	Sept. 15	75	Nov. 2	65	Dec. 21	85
Mar. 16	40	Sept. 16	40	Nov. 4	80	Dec. 23	50
Mar. 18	40	Sept. 18	75	Nov. 7	65	Dec. 27	70
Mar. 21	60	Sept. 19	75	Nov. 10	60	Dec. 30	90
Mar. 24	60	Sept. 25	65	Nov. 13	70		

Mint at Denver.

SILVER PIECES.

Date.	Dollars.	Date.	Dollars.	Date.	Dollars.	Date.	Dollars.
1922.		1822.		1922.		1922.	
Feb. 21	13	Apr. 15	25	June 28	49	Oct. 11	100
Feb. 23	13	Apr. 18	38	Aug. 7	50	Oct. 13	100
Feb. 24	13	Apr. 20	38	Aug. 10	50	Oct. 16	100
Feb. 25	13	Apr. 22	38	Aug. 12	50	Oct. 18	100
Feb. 27	13	Apr. 25	30	Aug. 16	50	Oct. 20	100
Feb. 28	13	Apr. 27	38	Aug. 18	50	Oct. 23	100
Mar. 1	13	Apr. 29	30	Aug. 21	100	Oct. 25	100
Mar. 3	25	May 2	38	Aug. 23	100	Oct. 27	100
Mar. 4	13	May 4	30	Aug. 25	100	Oct. 30	100
Mar. 6	13	May 6	38	Aug. 28	75	Nov. 1	100
Mar. 7	13	May 13	38	Aug. 30	100	Nov. 3	100
Mar. 8	25	May 16	38	Sept. 1	100	Nov. 8	100
Mar. 9	13	May 18	30	Sept. 5	50	Nov. 15	100
Mar. 11	25	May 20	40	Sept. 6	75	Nov. 20	100
Mar. 14	38	May 25	40	Sept. 8	100	Nov. 27	100
Mar. 16	25	May 27	40	Sept. 11	75	Nov. 29	50
Mar. 18	25	May 29	20	Sept. 13	100	Dec. 1	100
Mar. 21	38	June 1	40	Sept. 15	100	Dec. 4	100
Mar. 23	25	June 3	50	Sept. 18	100	Dec. 6	100
Mar. 25	38	June 6	50	Sept. 20	100	Dec. 8	100
Mar. 28	25	June 8	50	Sept. 22	100	Dec. 11	100
Mar. 30	38	June 10	50	Sept. 25	100	Dec. 13	100
Apr. 1	38	June 13	50	Sept. 27	100	Dec. 15	100
Apr. 4	25	June 15	50	Sept. 29	100	Dec. 18	100
Apr. 6	38	June 17	38	Oct. 2	100	Dec. 20	100
Apr. 8	38	June 20	25	Oct. 4	100	Dec. 22	100
Apr. 11	25	June 22	25	Oct. 6	100	Dec. 27	100
Apr. 13	38	June 24	25	Oct. 9	100	Dec. 29	100

GLOY L. AUSTILL, *Chairman.*
CHARLES O. BAILEY.
A. S. HOUGH.
FARRAN ZERBE.
FRANK B. RUSSELL.

COMMITTEE ON WEIGHING.

To the CHAIRMAN AND MEMBERS OF THE BOARD OF ASSAY COMMISSIONERS:

The committee on weighing have to report that they have weighed the coins shown in the appended list and have found them to be standard within the legal tolerances. The coins were selected at random from those reserved by the mints at Philadelphia, San Francisco, and Denver.

The coins were directly weighed against a set of sealed-coin weights which were accompanied by a certificate signed by the Director of the Bureau of Standards, Department of Commerce, and which gave the value of the weights in terms of United States standard. The weighings were made on a Troemner balance supplied by the Philadelphia Mint and was tested by your committee as to the equality of the arms and as to its sensibility, which were entirely satisfactory.

As a further check upon the Philadelphia Mint, the set of troy weights used as a standard by this mint, from 500 ounces to 0.0001 of an ounce, were carefully intercompared with one another and found to be in agreement within negligible quantities.

Reserved coin weighed by the committee on weighing.

MINT AT PHILADELPHIA.

GOLD COINS.

Date.	Number of delivery.	Denomination.	Deviation from standard weight in grains.		Date.	Number of delivery.	Denomination.	Deviation from standard weight in grains.	
1922.			*Heavy.*	*Light.*	1922.			*Heavy.*	*Light.*
Mar. 29	1	Dollar, Grant Memorial.	0.07	.....	June 7	28	Double eagle.....	.....	0.27
29	2	.....do.....	.16	.....	Sept. 9	29	.....do.....	0.06	.....
30	3	Double eagle.....	.....	0.23	14	32	.....do.....	.01	.....
31	4	.....do.....	.....	.01	15	33	.....do.....	.....	.27
Apr. 1	5	.....do.....	.03	.....	19	36	.....do.....	.19	.....
6	9	.....do.....	.16	.....	22	39	.....do.....	.....	.14
7	10	.....do.....	.....	.16	26	41	.....do.....	.....	.11
14	16	.....do.....	.....	.05	30	43	.....do.....	.16	.....
24	21	.....do.....	.....	.12	Oct. 5	44	.....do.....	.08	.....
29	22	.....do.....	.....	.15	7	45	.....do.....	.02	.....
May 6	23	.....do.....	.....	.11	7	45	.....do.....	.01	.....
13	24	.....do.....	.15	.....	12	46	.....do.....	.26	.....
19	25	.....do.....	.....	.02	19	48	.....do.....	.03	.....
27	26	.....do.....	.24	.....	21	49	.....do.....	.....	.13
31	27	.....do.....	.21	.....	27	50	.....do.....	.03	.....

SILVER COINS.

Date.	Number of delivery.	Denomination.	Heavy.	Light.	Date.	Number of delivery.	Denomination.	Heavy.	Light.
1922.					1922.				
Feb. 13	1	Dollar.....	1.02	.....	Apr. 13	57	Dollar.....	0.87	.....
15	4	.....do.....	.48	.....	14	58	.....do.....	.....	1.41
20	8	.....do.....	.04	.....	25	67	.....do.....	.....	.67
20	8	.....do.....	.80	.....	29	71	.....do.....	.40	.....
24	12	.....do.....	1.10	.....	29	71	.....do.....	.17	.....
25	13	.....do.....	.12	.....	May 4	75	.....do.....	.18	.....
25	13	.....do.....	.....	0.02	6	77	.....do.....	.87	.....
26	14	.....do.....	.84	.....	6	77	.....do.....	.....	.90
26	14	.....do.....	.....	.28	8	78	.....do.....	.....	.16
28	15	.....do.....	.27	.....	8	78	.....do.....	.....	.26
28	15	.....do.....	.13	.....	11	81	.....do.....	.93	.....
Mar. 2	17	.....do.....	.76	.....	11	81	.....do.....	.....	.32
4	19	.....do.....	.....	.47	12	82	.....do.....	.06	.....
6	20	.....do.....	.....	1.30	12	82	.....do.....	1.02	.....
8	22	.....do.....	.....	.34	19	88	.....do.....	.....	.58
10	24	.....do.....	.....	.33	19	88	.....do.....	.20	.....
11	25	.....do.....	.80	.....	22	90	.....do.....	.34	.....
14	27	.....do.....	.....	.20	22	90	.....do.....	.....	.49
15	28	.....do.....	1.26	.....	24	92	.....do.....	.....	1.18
16	29	.....do.....	.....	.11	24	92	.....do.....	.....	.15
20	33	Half dollar, Grant Memorial.	.40	.....	27	95	.....do.....	.....	.15
					29	96	.....do.....	.....	.80
22	36	.....do.....	.....	.38	29	96	.....do.....	1.22	.....
24	38	Dollar.....	.18	.....	31	97	.....do.....	.67	.....
30	45	Half dollar, Grant Memorial.	.60	.....	June 1	98	.....do.....	.88	.....
					2	99	.....do.....	.....	.68
31	46	.....do.....	.45	.....	3	100	.....do.....	.....	.49
Apr. 1	47	Dollar.....	.....	.58	3	100	.....do.....	.58	.....
3	48	.....do.....	.64	.....	6	102	.....do.....	.28	.....
5	50	.....do.....	.76	.....	6	102	.....do.....	.56	.....
7	52	.....do.....	1.10	.....	7	103	.....do.....	.....	.77
8	53	.....do.....	.26	.....	7	103	.....do.....	.....	.92
11	55	.....do.....	.....	.89	8	104	.....do.....	.01	.....

Reserved coin weighed by the committee on weighing—Continued.

MINT AT PHILADELPHIA—Continued.

SILVER COINS—continued.

Date.	Number of delivery.	Denomination.	Deviation from standard weight in grains.		Date.	Number of delivery.	Denomination.	Deviation from standard weight in grains.	
1922.			*Heavy.*	*Light.*	1922.			*Heavy.*	*Light.*
June 10	106	Dollar	1.09	.....	Sept. 25	169	Dollar	0.58	.....
July 11	107	do	.67	.....	29	173	do	.....	0.42
11	107	do	.63	.....	30	174	do	.04	.....
12	108	do	.30	.....	Oct. 2	175	do	.....	.22
12	108	do	.68	.....	6	179	do	.....	1.10
14	110	do	.....	1.09	9	181	do	.....	.87
17	112	do	.05	.....	11	183	do	.....	1.12
19	114	do	.95	.....	12	184	do	.....	.02
21	116	do	.....	.03	20	191	do	1.24	.....
22	117	do	(1)	(1)	23	193	do	.30	.....
25	118	do	.....	.80	24	194	do	.75	.....
27	120	do	.....	1.25	28	198	do	.26	.....
27	120	do	.....	.42	30	199	do	.02	.....
28	121	do	.....	.15	Nov. 1	201	do	.....	.29
31	123	do	1.14	.....	2	202	do	.....	1.11
Aug. 1	124	do	1.04	.....	3	203	do	.....	.40
2	125	do	.....	.12	6	205	do	.....	.01
4	127	do	.16	.....	9	208	do	.....	.41
7	129	do	.33	.....	14	212	do	.03	.....
9	131	do	.28	.....	20	217	do	.65	.....
14	134	do	.....	.70	23	220	do	.....	.02
18	138	do	.55	.....	28	224	do	.....	.90
22	141	do	.52	.....	29	225	do	.84	.....
28	146	do	1.13	.....	Dec. 1	226	do	.90	.....
31	149	do	1.23	.....	2	227	do	.....	.81
Sept. 6	153	do	.....	.15	6	230	do	.....	.67
9	156	do	.19	.....	8	232	do	.....	.50
11	157	do	.....	.08	13	236	do	.35	.....
14	160	do	.....	.38	15	238	do	.69	.....
18	163	do	.85	.....	21	243	do	.70	.....
22	167	do	.39	.....	23	245	do	.....	.12
23	168	do	.72	.....	30	250	do	.80	.....

[1] Standard.

MINT AT SAN FRANCISCO.

GOLD COINS.

1922.					1922.				
Mar. 27	1	Double eagle	.....	0.35	May 23	50	Double eagle	0.11	.....
28	2	do	.....	.05	27	54	do	.....	0.04
29	3	do	.....	.02	31	56	do	.15	.....
30	4	do	.....	.33	June 1	57	do	.....	.17
31	5	do	.....	.02	3	59	do	.07	.....
Apr. 1	6	do	.....	.31	6	61	do	.....	.05
3	7	do	.....	.14	8	63	do	.....	.03
7	11	do	.....	.18	9	64	do	.18	.....
10	13	do	.....	.02	July 20	67	do	.02	.....
11	14	do	.....	.09	21	68	do	(1)	(1)
13	16	do	.....	.02	24	70	do	.16	.....
17	19	do	.....	.01	25	71	do	.....	.06
18	20	do	.....	.09	28	74	do	.31	.....
19	21	do	0.23	.....	31	76	do	.35	.....
20	22	do	.02	.....	Aug. 2	78	do	.06	.....
24	25	do	.23	.....	5	81	do	.07	.....
29	30	do	.....	.02	7	82	do	.22	.....
May 2	32	do	.....	.01	10	85	do	(1)	(1)
5	35	do	.....	.01	14	88	do	.22	.....
6	36	do	.....	.19	30	92	do	.....	.02
9	38	do	.....	.16	Sept. 5	94	do	.04	.....
10	39	do	.....	.29	6	95	do	.....	.21
17	45	do	.20	.....	7	96	do	.....	.24
19	47	do	.....	.19	8	97	do	.....	.04
20	48	do	.....	.28					

Reserved coin weighed by the committee on weighing—Continued.

MINT AT SAN FRANCISCO—Continued.

SILVER COINS.

Date.	Number of delivery.	Denomination.	Deviation from standard weight in grains.		Date.	Number of delivery.	Denomination.	Deviation from standard weight in grains.	
			Heavy.	*Light.*				*Heavy.*	*Light.*
1922.					1922.				
Feb. 23	1	Dollar	0.19	.....	Oct. 3	58	Dollar	0.78	.....
24	2	.....do	.28	.....	5	60	.....do	.....	0.20
25	3	.....do	.....	0.75	7	62	.....do	.....	.08
27	4	.....do	.....	1.03	10	64	.....do	.....	.07
28	5	.....do	.....	1.20	18	71	.....do	.80	.....
Mar. 1	6	.....do	.03	.....	21	74	.....do	.55	.....
3	8	.....do	.....	.11	26	78	.....do	.....	.34
4	9	.....do	.29	.....	30	81	.....do	.....	.21
8	12	.....do	.....	.46	Nov. 2	84	.....do	.....	1.05
13	16	.....do	.....	.52	4	86	.....do	.72	.....
16	19	.....do	.30	.....	7	88	.....do	.31	.....
18	21	.....do	.....	1.20	10	91	.....do	.....	.52
25	27	.....do	.51	.....	13	93	.....do	1.03	.....
Aug. 17	29	.....do	.....	.24	17	97	.....do	.76	.....
18	30	.....do	.52	.....	22	101	.....do	.....	.87
19	31	.....do	.95	.....	24	103	.....do	(1)	(1)
22	33	.....do	.47	.....	29	107	.....do	.....	1.13
25	36	.....do	.....	.84	Dec. 1	108	.....do	.....	.60
26	37	.....do	.07	.....	5	111	.....do	.55	.....
28	38	.....do	.....	.08	8	114	.....do	.96	.....
Sept. 11	39	.....do	.....	.97	12	117	.....do	.....	.04
13	41	.....do	.....	.74	14	119	.....do	.....	.73
15	43	.....do	.71	.....	18	122	.....do	.....	.72
18	45	.....do	.....	.42	21	125	.....do	.11	.....
19	46	.....do	.....	.58	23	127	.....do	.....	1.12
19	46	.....do	.....	.63	27	129	.....do	.79	.....
25	51	.....do	.....	.53	30	132	.....do	.59	.....
30	56	.....do	.....	.32					

[1] Standard.

MINT AT DENVER.

SILVER COINS.

1922.					1922.				
Feb. 21	1	Dollar	.....	0.22	Apr. 25	33	Dollar	.....	0.47
23	2	.....do	0.19	.....	27	34	.....do	0.54	.....
24	3	.....do	.76	.....	29	35	.....do	.77	.....
25	4	.....do	.31	.....	May 2	36	.....do	.....	.26
27	5	.....do	.74	.....	4	37	.....do	.55	.....
28	6	.....do	.....	.90	6	38	.....do	.....	.03
Mar. 1	7	.....do	.....	1.01	13	41	.....do	.....	.86
3	8	.....do	1.02	.....	16	42	.....do	.....	.02
4	9	.....do	.11	.....	18	43	.....do	.27	.....
6	10	.....do	.....	.93	20	44	.....do	.02	.....
7	11	.....do	.88	.....	25	46	.....do	.....	.21
8	12	.....do	.....	.98	27	47	.....do	.90	.....
9	13	.....do	.73	.....	29	48	.....do	.....	.26
11	14	.....do	.....	.47	June 1	49	.....do	.74	.....
14	15	.....do	.16	.....	3	50	.....do	.60	.....
16	16	.....do	.....	.10	6	51	.....do	.....	.49
18	17	.....do	.63	.....	8	52	.....do	.10	.....
21	18	.....do	.47	.....	10	53	.....do	.25	.....
23	19	.....do	.08	.....	13	54	.....do	.....	.61
25	20	.....do	.....	1.19	15	55	.....do	.73	.....
28	21	.....do	.21	.....	17	56	.....do	.....	.52
30	22	.....do	.03	.....	20	57	.....do	.....	.45
Apr. 1	23	.....do	.....	.31	22	58	.....do	.64	.....
4	24	.....do	.34	.....	24	59	.....do	.....	.20
6	25	.....do	.29	.....	28	60	.....do	.70	.....
8	26	.....do	.72	.....	Aug. 7	61	.....do	.48	.....
11	27	.....do	.....	.12	10	62	.....do	.....	.01
13	28	.....do	.....	.38	12	63	.....do	.52	.....
15	29	.....do	.61	.....	16	64	.....do	.29	.....
18	30	.....do	.....	.07	18	65	.....do	.....	.50
20	31	.....do	.13	.....	21	66	.....do	.82	.....
22	32	.....do	(1)	(1)	23	67	.....do	.78	.....

[1] Standard.

Reserved coin weighed by the committee on weighing—Continued.

MINT AT DENVER—Continued.

SILVER COINS—continued.

Date.	Number of delivery.	Denomination.	Deviation from standard weight in grains.		Date.	Number of delivery.	Denomination.	Deviation from standard weight in grains.	
1922.			*Heavy.*	*Light.*	1922.			*Heavy.*	*Light.*
Aug. 25	68	Dollar	0.21	.....	Oct. 11	88	Dollar	.....	0.90
28	69	.....do	.....	0.59	20	92	.....do	.....	.04
30	70	.....do	.....	.62	23	93	.....do	.....	.52
Sept. 1	71	.....do	.24	.....	25	94	.....do	0.41	.....
5	72	.....do	.82	.....	27	95	.....do	.....	.40
6	73	.....do	.....	.51	30	96	.....do	.85	.....
8	74	.....do	.....	.26	Nov. 1	97	.....do	.90	.....
11	75	.....do	.45	.....	1	97	.....do	.70	.....
13	76	.....do	.82	.....	3	98	.....do	.....	.14
15	77	.....do	.....	.21	8	100	.....do	.....	.54
18	78	.....do	.14	.....	20	105	.....do	.....	.90
20	79	.....do	.....	.96	29	109	.....do	.49	.....
22	80	.....do	.49	.....	Dec. 1	110	.....do	.....	.20
25	81	.....do	.75	.....	6	112	.....do	.04	.....
27	82	.....do	.....	.04	13	115	.....do	.07	.....
29	83	.....do	.10	.....	15	116	.....do	.51	.....
Oct. 2	84	.....do	.55	.....	20	118	.....do	.34	.....
6	86	.....do	.45	.....	27	120	.....do	.....	.57

As a matter of interest, but of no significance since all coins examined were well within the tolerance, the heaviest and lightest coins (above and below standards) found for the different mints are given below:

PHILADELPHIA.

	Grains.
Gold coins:	
Heaviest	0.26
Lightest	.27
Silver coins:	
Heaviest	1.26
Lightest	1.41

SAN FRANCISCO.

Gold coins:	
Heaviest	.35
Lightest	.35
Silver coins:	
Heaviest	1.03
Lightest	1.20

DENVER.

Silver coins:	
Heaviest	1.02
Lightest	1.19

Respectfully submitted.

S. W. STRATTON, *Chairman.*
WM. GERRY MORGAN.
CHESTER A. MCLAIN.

COMMITTEE ON ASSAYING.

To the CHAIRMAN AND MEMBERS OF THE BOARD OF ASSAY COMMISSIONERS:

The committee on assaying respectfully reports that it has completed the assays on samples selected from the residues of reserved coins, representing all denominations coined by the mints at Philadelphia, San Francisco, and Denver during each month of the year 1922.

The results of the assays as reported in the following schedules show that the coinage has been well within the legal limits of one one-thousandth for gold coin and three one-thousandths for silver.

The highest assays on individual gold coin selected for assay were:

Philadelphia	900.4
San Francisco	900.5

The lowest assays on gold coin were:

Philadelphia	899.8
San Francisco	899.3

The highest assays on individual silver coin selected were:

Philadelphia	900.7
San Francisco	901.3
Denver	900.7

The lowest assays on silver coin were:

Philadelphia	898.6
San Francisco	898.6
Denver	898.6

The assay balances were found to be in adjustment and the materials used in making the assays were found to be satisfactory and the committee therefore considers the assays to be reliable.

The following schedules show results obtained from assays made on individual coins selected from deliveries made by the mints during the year:

Reserved coins assayed by the committee on assaying.

MINT AT PHILADELPHIA.

GOLD.

Date.	Number of delivery.	Denomination.	Fineness.	Date.	Number of delivery.	Denomination.	Fineness.
1922.				1922.			
Mar. 29	1	Dollar, Grant Memorial	900.1	May 19	25	Double eagle	900.0
29	2	do	900.0	27	26	do	900.3
30	3	Double eagle	900.0	31	27	do	900.2
31	4	do	900.0	Sept. 15	33	do	900.0
Apr. 1	5	do	900.1	22	39	do	900.1
6	9	do	899.9	30	43	do	900.1
7	10	do	899.9	Oct. 12	46	do	899.8
14	16	do	900.3	19	48	do	900.0
29	22	do	900.1	27	50	do	899.9
May 6	23	do	900.2				
13	24	do	900.4				

Mass melt: 27 double eagles; fineness, 900.

Reserved coins assayed by the committee on assaying—Continued.

MINT AT PHILADELPHIA—Continued.

SILVER.

Date.	Number of delivery.	Denomination.	Fineness.	Date.	Number of delivery.	Denomination.	Fineness.
1922.				1922.			
Feb 13	1	Dollar	899.5	July 14	110	Dollar	899.1
15	4	do	899.8	19	114	do	899.1
20	8	do	899.1	22	117	do	899.1
24	12	do	900.0	28	121	do	898.9
26	14	do	899.1	Aug. 4	127	do	900.0
28	15	do	898.9	9	131	do	898.9
Mar. 2	17	do	899.5	14	134	do	899.1
4	19	do	899.8	18	138	do	899.1
8	22	do	898.6	22	141	do	898.6
11	25	do	899.8	29	146	do	899.8
15	28	do	899.5	31	149	do	899.5
20	33	Half dollar, Grant Memorial	898.9	Sept. 6	153	do	900.0
				11	157	do	900.0
22	36	do	898.6	18	163	do	900.7
24	38	Dollar	900.2	23	168	do	899.1
30	45	Half dollar, Grant Memorial	899.1	29	173	do	899.8
				Oct. 6	179	do	899.3
Apr. 3	48	Dollar	899.8	12	184	do	899.5
5	50	do	900.0	20	191	do	900.0
7	52	do	900.0	24	194	do	899.3
11	55	do	899.8	30	199	do	899.8
25	67	do	899.5	Nov. 2	202	do	900.7
29	71	do	900.0	9	208	do	899.8
May 6	77	do	899.8	14	212	do	899.8
11	81	do	899.5	20	217	do	899.3
19	88	do	899.1	28	224	do	900.0
22	90	do	899.1	Dec. 6	230	do	900.0
24	92	do	899.1	13	236	do	898.9
June 1	98	do	899.1	21	243	do	899.3
6	102	do	899.1	30	250	do	900.0
10	106	do	899.1				

Mass melt: 60 dollars, 6 half dollars, Grant Memorial; fineness, 899.1.

MINT AT SAN FRANCISCO.

GOLD.

1922.				1922.			
Mar. 27	1	Double eagle	899.7	May 31	56	Double eagle	899.9
29	3	do	899.5	June 2	58	do	900.5
31	5	do	899.9	6	61	do	899.9
Apr. 3	7	do	899.7	9	64	do	899.8
7	11	do	899.5	July 20	67	do	899.8
11	14	do	899.6	24	70	do	899.8
17	19	do	900.0	27	73	do	899.3
19	21	do	900.0	31	76	do	900.0
24	25	do	899.7	Aug. 3	79	do	899.9
29	30	do	899.9	7	82	do	900.0
May 2	32	do	899.9	10	85	do	899.9
6	36	do	900.0	14	88	do	899.9
10	39	do	899.4	30	92	do	899.9
17	45	do	899.7	Sept. 5	94	do	900.1
20	48	do	899.9	7	96	do	899.9
25	52	do	899.8	9	98	do	900.0

Mass melt: 45 double eagles; fineness, 899.7.

Reserved coins assayed by the committee on assaying—Continued.

MINT AT SAN FRANCISCO—Continued.

SILVER.

Date.	Number of delivery.	Denomination.	Fineness.	Date.	Number of delivery.	Denomination.	Fineness.
1922.				1922.			
Feb. 23	1	Dollar	900.2	Oct. 18	71	Dollar	899.8
25	3	do	900.2	21	74	do	898.9
Mar. 1	6	do	900.7	26	78	do	899.1
4	9	do	899.3	30	81	do	900.0
7	11	do	899.5	Nov. 2	84	do	900.4
13	16	do	900.4	7	88	do	899.5
18	21	do	900.4	10	91	do	900.2
24	26	do	899.5	13	93	do	899.5
Aug. 17	29	do	899.1	17	97	do	901.1
21	32	do	899.3	21	100	do	900.4
26	37	do	899.5	24	103	do	900.3
Sept. 11	39	do	899.3	29	107	do	901.1
15	43	do	899.8	Dec. 5	111	do	899.8
19	46	do	899.8	8	114	do	901.3
25	51	do	899.1	14	119	do	900.2
30	56	do	899.8	18	122	do	900.0
Oct. 3	58	do	899.1	21	125	do	899.3
7	62	do	900.7	27	129	do	899.8
11	65	do	900.0	30	132	do	898.9

Mass melt: 57 dollars; fineness, 899.8.

MINT AT DENVER.

SILVER.

1922.				1922.			
Feb. 21	1	Dollar	899.5	Aug. 12	63	Dollar	900.0
24	3	do	899.1	21	66	do	899.8
27	5	do	900.0	30	70	do	900.0
Mar. 1	7	do	899.1	Sept. 1	71	do	899.5
7	11	do	900.0	13	76	do	899.8
14	15	do	899.8	22	80	do	900.0
21	18	do	899.8	29	83	do	899.8
28	21	do	899.1	Oct. 6	86	do	899.1
Apr. 6	25	do	899.3	16	90	do	899.5
13	28	do	900.0	25	94	do	898.6
25	33	do	900.0	Nov. 1	97	do	900.0
May 2	36	do	899.8	8	100	do	899.5
6	38	do	899.5	20	105	do	899.5
16	42	do	899.8	29	109	do	899.5
25	46	do	900.0	Dec. 11	114	do	899.8
June 8	52	do	900.7	22	119	do	900.2
15	55	do	900.4	29	121	do	900.0
22	58	do	900.0				

Mass melt: 61 dollars; fineness, 900.

B. G. SHIELDS, *Chairman.*
GEO. P. MERRILL.
CHAS. S. CURTIS.

COMMITTEE ON RESOLUTIONS.

To the CHAIRMAN AND MEMBERS OF THE ASSAY COMMISSION:

Whereas the Annual Assay Commission, appointed by the President of the United States to examine and test the weight and the fineness of the gold and silver coins reserved by the several mints of the United States during the calendar year 1922, has held its meeting at the mint of the United States at Philadelphia on the 14th, 15th, and 16th days of February, 1923; and

Whereas the members of the commission have been escorted through the institution by the superintendent of the mint and given every opportunity to inspect coinage processes in order that they might have a better understanding of the work they were about to undertake; and

Whereas the commission has completed its labors, the committee on resolutions desires to respectfully submit for the consideration of the commission the following resolutions:

Resolved, That the members of the Assay Commission of 1923 hereby compliment the Director of the Mint, Hon. F. E. Scobey, the superintendents, and other officials at each of the mints at Philadelphia, San Francisco, and Denver on the splendid results shown in the tests by weight and fineness of the gold and silver coinage of the year 1922; and it is further

Resolved, That the thanks of the commission are heartily tendered to Miss M. M. O'Reilly, Acting Director of the Mint; Hon. Freas Styer, superintendent of the mint at Philadelphia, and his officers and employees for their assistance and courtesies extended during the session.

Mrs. John Gordon Battelle, *Chairman*.
Charles O. Bailey.
Chas. S. Curtis.
Robert B. Armstrong.

The report of the committee on resolutions was unanimously adopted.

Chairman Vestal announced that before the commission adjourned he desired to again thank the members for honoring him in making him chairman of the commission, to extend his thanks to Superintendent Styer and to Assistant Superintendent Chaffin for their kindness and courtesies, and to personally express his appreciation of the assistance rendered in the work of the commission by the cashier, Mr. Powell, and his assistants.

Mr. Armstrong briefly responded that he would like to say in behalf of the members of the commission that they also appreciated the services of their able chairman and desired to thank him for his extreme interest and courtesy.

The work of the commission having been completed, the chairman declared the commission adjourned sine die.

Albert H. Vestal, *Chairman*.
S. W. Stratton.
Charles O. Bailey.
A. S. Hough.
Wm. Gerry Morgan.
Chester A. McLain.
Mrs. John Gordon Battelle.
Chas. S. Curtis.
B. G. Shields.
Geo. P. Merrill.
Robert B. Armstrong.
Farran Zerbe.
Gloy L. Austill.
Frank B. Russell.

ASSAY COMMISSION MEDAL.

The souvenir medal presented to the members of the commission bears on the obverse side a profile portrait of President Harding and on the reverse a torch and balance, which, as designed by Mr. Morgan, the engraver of the mint, is to suggest that the commission is appointed to examine and weigh in the balance the work of the mints for the past year and to publish to the world the result of that examination. The inscription on the upper part of the design refers to the seal of the United States of America, which is intended as a mark or proof that the work has received the approval of the Government.

APPENDIX.

Legal requirements concerning the weight and fineness of the coins.

Denomination.	As to weight.			As to fineness.	
	Standard weight.	Deviation allowed.	Lowest legal weight.	Standard fineness.	Deviation allowed.
DOMESTIC.					
Gold coins.	*Grains.*	*Grains.*	*Grains.*	*Thousandths.*	*Thousandths.*
Double eagle	516.0	0.50	515.50	900	1
Eagle	258.0	.50	257.50	900	1
Half eagle	129.0	.25	128.75	900	1
Quarter eagle	64.5	.25	64.25	900	1
Silver coins.					
Dollar	412.5	1.5	411.00	900	3
Half dollar	192.9	1.5	191.40	900	3
Quarter dollar	96.45	1.5	94.95	900	3
Dime	38.58	1.5	37.08	900	3

LAWS GOVERNING WEIGHT AND FINENESS OF COINS OF THE UNITED STATES AND RESERVATION OF PIECES FOR ANNUAL TEST.

[R. S., Title XXXVII.—Coinage, Weights, and Measures.]

STANDARD WEIGHT OF GOLD COINS.

SEC. 3511. The gold coins of the United States shall be a one-dollar piece,[1] which, at the standard weight of twenty-five and eight-tenths grains, shall be the unit of value; a quarter eagle, or two and a half dollar piece; a three-dollar piece; [1] a half eagle, or five-dollar piece; an eagle, or ten-dollar piece; and a double eagle, or twenty-dollar piece. And the standard weight of the gold dollar shall be twenty-five and eight-tenths grains; of the quarter eagle, or two and a half-dollar piece, sixty-four and a half grains; of the three-dollar piece, seventy-seven and four-tenths grains; of the half eagle, or five-dollar piece, one hundred and twenty-nine grains; of the eagle, or ten-dollar piece, two hundred and fifty-eight grains; of the double eagle, or twenty-dollar piece, five hundred and sixteen grains.

STANDARD WEIGHT OF SILVER COINS.

SEC. 3513. The silver coins of the United States shall be a trade dollar,[2] a half dollar, or fifty-cent piece, a quarter dollar, or twenty-five cent piece, a dime, or ten-cent piece; and the weight of the trade dollar shall be four hundred and twenty grains troy; the weight of the half dollar shall be twelve grams (grammes) and one-half of a gram (gramme); the quarter dollar and the dime shall be, respectively, one-half and one-fifth of the weight of said half dollar.

AN ACT To authorize the coinage of the standard silver dollar and to restore its legal-tender character.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be coined at the several mints of the United States silver dollars of the weight of four hundred and twelve and a half grains troy of standard silver, as provided in the act of January eighteenth, eighteen hundred and thirty-seven, on which shall be the devices and superscriptions provided by said act. * * * (Passed February 28, 1878.)

STANDARD OF FINENESS.

SEC. 3514. The standard for both gold and silver coins of the United States shall be such that of one thousand parts, by weight, nine hundred shall be of pure metal and one hundred of alloy. The alloy of the silver coins shall be of copper. The alloy of the gold coins shall be of copper or of copper and silver, but the silver shall in no case exceed one-tenth of the whole alloy.

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[1] Repealed by act of Sept. 26, 1890.
[2] Authority to coin a "trade dollar" repealed by act of Mar. 3, 1887.

DEVIATIONS FROM STANDARD FINENESS AND WEIGHT ALLOWED.

SEC. 3533. No ingots shall be used for coinage which differ from the legal standard more than the following proportions, namely: In gold ingots, one-thousandth; in silver ingots, three-thousandths. * * *

SEC. 3535. In adjusting the weights of the gold coins the following deviations shall not be exceeded in any single piece: In the double eagle and the eagle, one-half of a grain; in the half eagle, the three-dollar piece, the quarter eagle, and the one-dollar piece, one-fourth of a grain. And in weighing a number of pieces together, when delivered by the coiner to the superintendent and by the superintendent to the depositor, the deviation from the standard weight shall not exceed one-hundredth of an ounce in five thousand dollars, in double eagles, eagles, half eagles, or quarter eagles, in one thousand three-dollar pieces, and in one thousand one-dollar pieces.

SEC. 3536. In adjusting the weight of the silver coins the following deviations shall not be exceeded in any single piece: In the dollar, the half and quarter dollar, and in the dime, one and one-half grains.

COINS TO BE RESERVED FOR ANNUAL ASSAY.

SEC. 3539. At every delivery of coins made by the coiner to a superintendent it shall be the duty of such superintendent, in the presence of the assayer, to take indiscriminately a certain number of pieces of each variety for the annual trial of coins, the number for gold coins being not less than one piece for each one thousand pieces or any fractional part of one thousand pieces delivered; and for silver coins one piece for each two thousand pieces or any fractional part of two thousand pieces delivered. The pieces so taken shall be carefully sealed up in an envelope, properly labeled, stating the date of the delivery, the number and denomination of the pieces inclosed, and the amount of the delivery from which they were taken. These sealed parcels containing the reserved pieces shall be deposited in a pyx, designated for the purpose at each mint, which shall be kept under the joint care of the superintendent and assayer, and be so secured that neither can have access to its contents without the presence of the other, and the reserved pieces in their sealed envelopes from the coinage of each mint shall be transmitted quarterly to the mint at Philadelphia. A record shall also be kept at the same time of the number and denomination of the pieces so taken for the annual trial of coins and of the number and denominations of the pieces represented by them and so delivered, a copy of which record shall be transmitted quarterly to the Director of the Mint. Other pieces may, at any time, be taken for such tests as the Director of the Mint shall prescribe.

CONSTITUTION OF COMMISSION.

SEC. 3547. To secure a due conformity in the gold and silver coins to their respective standards of fineness and weight, the judge of the district court for the eastern district of Pennsylvania, the Comptroller of the Currency, the assayer of the assay office at New York, and such other persons as the President shall from time to time designate, shall meet as assay commissioners at the mint in Philadelphia to examine and test, in the presence of the Director of the

Mint, the fineness and weight of the coins reserved by the several mints for this purpose, on the second Wednesday in February annually, and may continue their meeting by adjournment if necessary. If a majority of the commissioners fail to attend at any time appointed for their meeting, the Director of the Mint shall call a meeting of the commissioners at such other time as he may deem convenient. If it appears by such examination and test that these coins do not differ from the standard fineness and weight by a greater quantity than is allowed by law, the trial shall be considered and reported as satisfactory. If, however, any greater deviation from the legal standard or weight appears, this fact shall be certified to the President; and, if on a view of the circumstances of the case, he shall so decide, the officers implicated in the error shall be thenceforward disqualified from holding their respective offices.

STANDARD WEIGHTS OF THE MINT.

SEC. 3548. For the purpose of securing a due conformity in weight of the coins of the United States to the provisions of the laws relating to coinage, the standard troy pound of the Bureau of Standards of the United States shall be the standard troy pound of the mint of the United States, conformably to which the coinage thereof shall be regulated.

SEC. 3549. It shall be the duty of the Director of the Mint to procure for each mint and assay office, to be kept safely thereat, a series of standard weights corresponding to the standard troy pound of the Bureau of Standards of the United States, consisting of a one-pound weight and the requisite subdivisions and multiples thereof, from the hundredth part of a grain to twenty-five pounds. The troy weight ordinarily employed in the transaction of such mints and assay offices shall be regulated according to the above standards at least once in every year, under the inspection of the superintendent and assayer; and the accuracy of those used at the mint at Philadelphia shall be tested annually in the presence of the assay commissioners at the time of the annual examination and test of coins.

EXTRACT FROM REGULATIONS GOVERNING MINTS.

CONCERNING MAINTENANCE OF COINAGE STANDARDS.

(Based on secs. 3538 and 3539, R. S.)

Record shall be kept of the kind, number, and actual weight of all coin manufactured.

Adjustment of the weight of single pieces of gold and silver coin shall be so performed as to satisfy the superintendent of the coining department that they are within the legal limits, and when a delivery of coin is made by that officer to the superintendent of the mint, the latter must, by the trial separately of not less than five pieces for each 1,000 pieces embraced in the proposed delivery, satisfy himself that the coins are within the legal limits as to weight. If these trials prove unsatisfactory, all the coins shall be weighed separately, and such as are not of legal weight shall be defaced and delivered to be melted.

Satisfactory trials by the superintendent having been made, the assay pieces shall be taken by him in the presence of the assayer, without selection or previous weighing, the number in the case of gold coins being one for each 1,000 pieces or fractional part thereof delivered, and in that of silver coins one for each 2,000 pieces or fractional part thereof delivered.

The whole number of assay pieces, without special test of weight, shall, after being protected from attrition, be sealed by the superintendent in an envelope on which shall be ascribed the place of coinage, the date, number, and amount of delivery, number and denomination of the pieces inclosed, and a certificate signed by the superintendent and assayer that the facts are as stated.

The sealed parcels shall be deposited in a pyx, designated for the purpose at each mint, which shall be kept under the joint care of the superintendent and the assayer and be secured so that neither can have access to its contents without the presence of the other.

The reserved pieces from the coinage of other than the Philadelphia Mint shall, in their sealed envelopes, be transmitted quarterly by express or registered mail to the mint at Philadelphia, where they shall be carefully preserved in a pyx under the joint care of the superintendent and the assayer, for delivery to the annual assay commission.

Records of these transactions shall be kept at each mint and a statement of the number of pieces in the deliveries and of the denomination of the same be transmitted monthly to the Director of the Mint. A quarterly statement shall be forwarded to the superintendent of the mint at Philadelphia by mail; a copy shall also be inclosed in the box containing the coins and an additional copy shall be forwarded to the Director of the Mint.

From the first and two subsequent deliveries in each week of gold and silver coins of each denomination of coin delivered by the superintendent of the coining department, specimen pieces, two in number, shall be taken, certified, and inclosed by the superintendent and assayer in the same manner as above prescribed for trial by the annual assay commission, and shall be promptly forwarded to the Director of the Mint by registered mail for test by the assayer of the director's office as to their conformity in weight and fineness to the requirements of the law.

RULES ADOPTED BY ASSAY COMMISSION IN 1921 FOR ORGANIZATION AND GOVERNMENT OF THE COMMISSION.

I.

At the hour appointed for the meeting by the Director of the Mint, if a quorum appears to be present he shall so announce, and the judge of the District Court of the United States for the Eastern District of Pennsylvania, or, in case of his absence, such member as the commissioners present may designate, shall take the chair, and the director's clerk, unless otherwise ordered by the board, shall act as secretary.

II.

The letter of the President, or the Director of the Mint, naming the commissioners who have been specially designated by the President of the United States, will be read, and the roll of the members ex officio and of the others accepting the appointment will be called.

III.

A quorum being present, the secretary will read section 3547 of the Revised Statutes of June 22, 1874, under which the commission is constituted, the several sections bearing upon the duties of the commissioners, the rules for the organization and government of the board, and the minutes of the last preceding assay.

IV.

The "reserved coins" having been produced by the officers in charge of them, the several packages in which they are contained will be opened in the presence of the commissioners, or of a committee for that purpose appointed, who shall report to the commission for confirmation, and the coin distributed by them in parcels with reference to their places of coinage and their metallic character, as follows:

1. Gold coins from the mint at Philadelphia.
2. Gold coins from the mint at San Francisco.
3. Gold coins from the mint at Denver.
4. Silver coins from the mint at Philadelphia delivered during the first six months of the year.
5. Silver coins from the mint at San Francisco delivered during the first six months of the year.
6. Silver coins from the mint at Denver delivered during the first six months of the year.
7. Silver coins from the mint at Philadelphia delivered during the remainder of the year.
8. Silver coins from the mint at San Francisco delivered during the remainder of the year.
9. Silver coins from the mint at Denver delivered during the remainder of the year.

But when it shall be made known to the board that at either of the mints there has taken place during the year a change in any of the

officers who are responsible for the coinage, the coins made during the terms of the respective incumbents will be distributed in separate parcels.

V.

The coins contained in each parcel having been examined and counted, the number will be compared with the number reported as "reserved," and having been verified the secretary will note the results on the minutes of the commission.

VI.

The chairman will then arrange the members of the board in three committees—one to take charge of counting, one of the weighing, and the other of the assaying, with power to associate members interchangeably and to require the manipulatory aid of the officers of the mint.

VII.

OF THE COUNTING.

The committee on counting shall receive from the superintendent of the mint at Philadelphia the packages containing the pieces reserved by the several mints for the trial of coins, in accordance with section 3539 of the Revised Statutes. These packages shall be compared by the committee with the transcripts furnished with them and shall be properly verified. The committee shall select packages from each mint for each month's coinage and containing all denominations coined, and accurately count the coins therein. The committee on counting shall deliver to the committee on weighing and to the committee on assaying such of the reserved coins as those committees may choose for their examination.

VIII.

OF THE WEIGHING.

(*a*) The committee on weighing shall take from each parcel of the coins, as distributed, two or more piles—each of 10 or more pieces and embracing 2 or more denominations—and 5 or more single pieces, of 2 or more differing denominations.

(*b*) They shall arrange the piles, and the single pieces thus taken out, with the mint marks downward, in such order that the particular place of mintage shall be known only to the members of the committee.

(*c*) The piles and single pieces shall then be severally weighed, under the scrutiny of the committee, and their respective weights ascertained—the piles to the one-thousandth of an ounce, the single pieces to the eighth of a grain—and the results shall be noted with a special reference as to any that may be found without the legal limits of weight.

(*d*) The committee shall then examine the weights ordinarily employed in the mint and shall attest their accordance with the standards prescribed by law.

(*e*) The Director of the Mint shall provide for the use of the Assay Commission a set of weights of every value, from the smallest

to the largest required, certified to him as being of the true standard of value as fixed by law. These weights shall be used by the Assay Commission and afterwards returned to the Director of the Mint. [Adopted by the Assay Commission of 1891.]

IX.

OF THE ASSAYING.

(*f*) The committee on assaying shall receive the residues of the several parcels of reserved coins; and adding to them—if it shall be necessary, but not otherwise—from the piles in the possession of the committee on weighing, shall first cause a portion of each parcel to be melted into an ingot of convenient size, and from each of the ingots so made they shall take test samples for assay.

(*g*) They shall then select a convenient number—not less than three—of single pieces of divers denominations from each parcel, from which they shall take test samples for assay.

(*h*) They shall then arrange all the test samples in such order as shall be known only to the members of the committee, and in that order such samples shall be assayed, the silver first and the gold afterwards.

(*i*) Should the operations of the assay be not consummated before the adjournment of the board for the day, the parcels of reserved coins, ingots, and test samples will remain in a chest or vault, under the joint and separate charge of the chairman and the Director of the Mint.

X.

The weighings and assayings having been completed under the scrutiny of the committees, respectively, the committees will report, fully and specifically, as to the coins of each mint.

XI.

And thereupon the commissioners will proceed to declare their judgment by an open vote; and a full record thereof, and of all their doings, having been engrossed by the secretary, it will be signed by all the members and delivered to the Director of the Mint, after which the board will be adjourned sine die.

The foregoing rules are subject to such modifications or alterations as a majority of the board may at any time during each annual assay deem expedient and proper.

ADOPTED BY THE ASSAY COMMISSION OF 1898.

The committee (on weighing) recommends that the standard weights which are kept specifically for the use of the Assay Commission, and which are retained in possession of the Director of the Mint, be sent in December of each year by him to the Director of the Bureau of Standards, who shall have them compared with the legal standard and who shall forward them each year, under seal, to the commission with a certification of their accuracy.

UNITED STATES ASSAY COMMISSIONERS—1874–1923.

[Names omitted of those not serving.]

Adams, Herbert	New York, N. Y	1919
Ailworth, R. L	Eastville, Va	1919
Allen, Oscar D	Yale Scientific School, New Haven, Conn	1883
Ames, J. S	Johns Hopkins University	1906
Amidon, S. B	Wichita, Kans	1918
Anderson, W. H	Grand Rapids, Mich	1905
Andrews, E. B	Lancaster, Ohio	1880
Andrews, E. Benjamin	Brown University, Providence, R. I	1893
Apperson, S. M	Little Rock, Ark	1903
Appleton, John Howard	Brown University, Providence, R. I	1891
Armstrong, Robert B	Washington, D. C	1922, 1923
Ashbrook, William A	Member of Congress from Ohio	1908, 1910, 1915, 1918, 1919, 1920
Ashbrook, William A	Johnstown, Ohio	1922
Atherton, George W	State College, Pennsylvania	1901
Auld, Joseph	Burlington, Vt	1909
Austill, Mrs. Gloy L	Indianapolis, Ind	1923
Austin, Warren R	St. Albans, Vt	1912
Avery, Charles	Hamilton College, Clinton, N. Y	1880
Baer, George F	Reading, Pa	1896
Bailey, Charles O	Newbury, Mass	1923
Bailey, Joel J	Philadelphia, Pa	1885
Bailey, J. M. jr	Sioux Falls, S. Dak	1891
Bailey, John T	Philadelphia, Pa	1895
Bancroft, Samuel, jr	Wilmington, Del	1895
Banes, Charles H	Philadelphia, Pa	1896
Barker, George F	University of Pennsylvania, Philadelphia	1884, 1890, 1892
Barnard, Frederick A. P	Columbia College, N. Y	1876
Barnet, Robert	San Francisco, Calif	1895
Barry, J. Edward	Cambridge, Mass	1920
Bartlett, Francis	Boston, Mass	1897
Barton, Edward P	Freeport, Ill	1884
Bassett, L. V	Rocky Mount, N. C	1918
Bateman, Newton	Galesburg, Ill	1878
Battelle, Mrs. John Gordon	Columbus, Ohio	1923
Beardsley, Charles	Burlington, Iowa	1878
Becker, George F	United States Geological Survey, San Francisco, Calif	1888
Bell, Miller S	Milledgeville, Ga	1914, 1917
Benjamin, Marcus	Smithsonian Institution, Washington, D. C	1896, 1900, 1904, 1906, 1912, 1917, 1918
Benner, Dr. R. C	University of Pittsburgh, Pittsburgh, Pa	1912
Bennett, S. J	Fort Dodge, Iowa	1905
Beidler, Francis	Chicago, Ill	1900
Bigelow, William Sturgis	Boston, Mass	1909
Blair, William A	Winston-Salem, N. C	1905
Blake, William P	New Haven, Conn	1876, 1883
Bland, Richard P	Member of Congress from Missouri	1881
Bolles, Albert S	Philadelphia, Pa	1897
Bolton H. Carrington	Trinity College, Hartford, Conn	1885
Borie, A. E	Philadelphia, Pa	1874
Bosbyshell, Oliver C	Philadelphia, Pa	1898
Boutelle, C. O	United States Coast and Geodetic Survey, Washington, D. C	1889
Boyer, Henry K	Philadelphia, Pa	1904
Braden, Eugene B	United States assay office, Helena, Mont	1896
Brady, Henry	Denver, Colo	1899
Branson, O. L	Mitchell, S. Dak	1911
Brenner, Judson	Youngstown, Ohio	1912, 1913, 1921, 1922
Brewster, Edward L	Chicago, Ill	1897
Bronson, S. A	Mansfield, Ohio	1878
Brown, James Crosby	Philadelphia, Pa	1906
Brown, William G	University of Missouri	1914
Bruner, Thomas K	Salisbury, N. C	1886
Buck, C. Elton	Wilmington, Del	1888
Buckley, Charles W	Montgomery, Ala	1880
Bullitt, William C	Philadelphia, Pa	1901
Burchard, Horatio C	Ex-Director of the Mint, Freeport, Ill	1894, 1899, 1901, 1903
Burdick, Francis M	Cornell University, Ithaca, N. Y	1889
Burlingame, E. E	Denver, Colo	1887
Burnett, Henry	Paducah, Ky	1896
Burnham, George, jr	Philadelphia, Pa	1919
Burns, Thomas P	United States Subtreasury, San Francisco, Calif	1908

[1] Ex officio (sec. 3547, Rev. Stat.).

Butler, William [1]	United States district judge for eastern district of Pennsylvania	1880, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1895, 1897, 1898
Bynum, William D	Muskogee, Okla	1897, 1909
Cadwalader, John [1]	United States district judge for eastern district of Pennsylvania	1874, 1875, 1876, 1877, 1878
Cadwalader, John	Philadelphia, Pa	1896
Campbell, J. W	Fort Dodge, Iowa	1908
Cannon, Henry W.[1]	Comptroller of the Currency	1885
Cannon, Henry W	New York, N. Y	1891, 1892
Capper, Arthur	United States Senator from Kansas	1920
Carter, Thomas H	Member of Congress from Montana	1891
Cauldwell, J. A	Wilkes-Barre, Pa	1909
Chace, A. B	Providence, R. I	1906
Chace, Jonathan	Senator from Rhode Island	1885
Chadburne, Paul A	Williamstown, Mass	1882
Chamberlain, Joshua L	Bowdoin College, Maine	1877
Chamberlin, T. C	Beloit, Wis	1886
Chandler, Charles F	Columbia College, New York	1886, 1897
Chandler, William H	Lehigh University, Bethlehem, Pa	1876, 1877, 1879, 1883, 1892
Chazal, P. E	Charleston, S. C	1887
Chester, Albert H	Hamilton College, Clinton, N. Y	1884
Child, H. W	Helena, Mont	1909
Childs, George W	Philadelphia, Pa	1875, 1882
Church, Edwin S	Akron, Ohio	1912
Church, John A	Prescott, Ariz	1886
Clarke, F. W	United States Geological Survey, Washington, D. C	1879, 1916
Cobb, Calvin	Boise, Idaho	1900
Cole, Cyrenus	Cedar Rapids, Iowa	1904
Coleman, H. Dudley	New Orleans, La	1912
Comings, George R.[1]	Assayer, United States assay office, New York	1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921
Conger, Edwin H	Member of Congress from Iowa	1890
Conger, Kenyon B	Irvington, N. Y	1915
Cook, George H	Rutgers College, New Brunswick, N. J	1889
Cooper, Charles E	Oil City, Pa	1898
Coppée, Henry	Lehigh University, Bethlehem, Pa	1874, 1880
Cornwall, H. B	College of New Jersey, Princeton	1884
Cunningham, David	Cadiz, Ohio	1910
Cunningham, J. W	Boise, Idaho	1893
Curtis, Charles S	Kansas City, Mo	1923
Daniels, Edward	(Ex-State geologist of Wisconsin), Virginia	1880
Darlington, Joseph G	Philadelphia, Pa	1904
Darrow, Geo. P	Member of Congress from Pennsylvania	1919
Davidson, George	United States Coast and Geodetic Survey, San Francisco, Calif	1885
Davis, L. Clarke	Philadelphia, Pa	1894
Dawes, Charles G.[1]	Comptroller of the Currency	1899, 1900
Dern, George H	Salt Lake City, Utah	1920
Deshler, John G	Columbus, Ohio	1893
Devereux, Walter B	Aspen, Colo	1886
Dill, C. C	Member of Congress from Washington	1916
Dodge, Francis S	Paymaster General, United States Army	1906
Dodge, Henry L	San Francisco, Calif	1886
Donaldson, Thomas	Philadelphia, Pa	1879, 1880, 1881, 1882, 1883
Dougherty, Hugh	Indianapolis, Ind	1915
Dowd, W. C	Charlotte, N. C	1906
Drake, Luther	Omaha, Nebr	1910
Drane, Frank P	Charlotte, N. C	1914
Drown, Thomas M	Massachusetts Institute of Technology, Boston	1886
Drown, Thomas M	Lehigh University, South Bethlehem, Pa	1896
Dudley, Charles B	Altoona, Pa	1888, 1899
Dudley, William L	Nashville, Tenn	1887
Duffield, W. W	Coast and Geodetic Survey, Washington, D. C	1896
Duggan, William E	Durango, Colo	1922
Earle, George H., jr	Philadelphia, Pa	1906
Eastwick, George S	New Orleans, La	1887
Eckels, George M	Chicago, Ill	1913
Eckels, James H.[1]	Comptroller of the Currency	1894, 1895, 1896, 1897
Eckfeldt, Frederick	Bureau of Mint, Washington, D. C	1881
Edwards, J. H	Washington, D. C	1904
Egleston, Thomas	Columbia College, New York	1878, 1885
Eldredge, J. U., jr	Ogden, Utah	1922
Elliott, E. B	Treasury Department, Washington, D. C	1874, 1875, 1876, 1877
Ellsworth, James W	Chicago, Ill	1894
Elverson, James	Philadelphia, Pa	1899
Emerson, Isaac E	Baltimore, Md	1919
Endlich, Gustav A	Reading, Pa	1897
Eoff, Alfred	Boise, Idaho	1892
Evans, Nelson F	Philadelphia, Pa	1891
Evans, Powell	Philadelphia, Pa	1914
Fairbank, Mrs. Kellogg	Chicago, Ill	1920
Farrar, Cirault	New Orleans, La	1894
Field, Wm. B. Osgood	New York City	1921
Fischer, Louis A	Bureau of Standards, Washington, D. C	1905, 1911, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921
Fisher, Daniel W	Hanover College, Hanover, Ind	1890
Fisher, Horatio G	Member of Congress from Pennsylvania	1882

[1] Ex officio (sec. 3547, Rev. Stat.).

Fitzpatrick, Chas. R	Warrenton, Ga	1913
Folwell, William W	University of Minnesota, Minneapolis	1890
Foster, D. N	Fort Wayne, Ind	1893
Foster, Sidney A	Des Moines, Iowa	1907
Francis, D. R	St. Louis, Mo	1895
Franklin, E. C	Leland Stanford University, California	1907
Fraser, James E	New York City	1921
Frazier, B. W	Lehigh University, Bethlehem, Pa	1886
Fristoe, E. T	Columbian University, Washington, D. C	1881, 1883, 1885
Funk, A. B	Spirit Lake, Iowa	1899
Garretson, George A	Cleveland, Ohio	1892
Genth, F. A	Philadelphia, Pa	1887
Gibson, Duncan	Lexington, Ky	1917
Gibson, George Rutledge	New York, N. Y	1892
Gilbert, Seymour P	Bloomfield, N. J	1921
Goodwin, H. M	Boston, Mass	1904
Gould, D. A	Harvard University, Cambridge, Mass	1891
Graham, John M	Rome, Ga	1921
Granberg, H. O	Oshkosh, Wis	1916, 1917
Groff, H. C	Victor, Mont	1915
Guild, Frank M	Tucson, Ariz	1901
Hague, Arnold	United States Geological Survey, Washington, D. C	1887
Hall, Edward	Lyon Mountain, N. Y	1889
Hall, George W	Philadelphia, Pa	1884
Hallock, William	New York, N. Y	1904
Hammond, Andrew B	Missoula, Mont	1892
Hamlin, Charles S	Boston, Mass	1903
Hanchett, Benton S	Grand Rapids, Mich	1905
Hanna, George B	United States assay office, Charlotte, N. C	1885
Harden, E. W	Chicago, Ill	1900, 1901, 1903, 1908
Hardwick, Thomas W	Member of Congress from Georgia	1911
Hardy, John	Member of Congress from New York	1884
Harris, Isham G	Senator from Tennessee	1887
Harrison, Russell B	Assayer, United States assay office, Helena, Mont	1880, 1881
Harrison, George L., jr	Philadelphia, Pa	1908
Hart, John W	Rigby, Idaho	1922
Haskin, John B	New York, N. Y	1879
Hasler, Charles E	Olney, Ill	1916
Hawes, R. S	St. Louis, Mo	1915
Hay, S. M	Oshkosh, Wis	1893
Hazeltine, A. J	Warren, Pa	1899, 1913
Heck, John W	Jersey City, N. J	1919, 1921
Henderson, J. M	Columbus, Ohio	1911, 1916, 1920, 1921
Hepburn, A. B.[1]	Comptroller of the Currency	1893
Hewston, George	San Francisco, Calif	1875
Hilgard, J. E	United States Coast and Geodetic Survey, Washington, D. C	1874, 1875, 1877, 1879, 1881, 1882, 1883, 1884
Hill, E. J	House of Representatives (Connecticut)	1900
Hillebrand, W. F	Bureau of Standards, Washington, D. C	1918
Holbrook, Francis N	El Paso, Tex	1887
Horsford, E. N	Cambridge, Mass	1889
Hough, A. S	Jacksonville, Fla	1923
Houser, Daniel M	St. Louis, Mo	1891
Howe, Henry M	Boston, Mass	1886
Howe, James Lewis	Washington and Lee University, Lexington, Va	1907, 1910
Hulett, G. A., Dr	Princeton University	1906
Ingham, Harvey	Des Moines, Iowa	1906
James, William F	Salt Lake City, Utah	1893
Jamison, B. K	Philadelphia, Pa	1895
Janin, Louis	San Francisco, Calif	1887
Jenkins, Thomas E	Louisville, Ky	1875
Jennings, Hennen	Washington, D. C	1914
Jewett, Eliot C	Assayer, United States assay office, St. Louis, Mo	1890
Johnson, Eastman	New York, N. Y	1884
Johnston, A. R	St. George, S. C	1919, 1920, 1922
Johnston, Joseph F	Senator from Alabama	1911
Jones, A. M	Chicago, Ill	1893
Jones, John P	Senator from Nevada	1874, 1890
Judah, Mrs. John M	Indianapolis, Ind	1922
Judson, H. P	University of Chicago	1903
Keehn, Roy D	Chicago, Ill	1918
Keiser, Edward H., Dr	St. Louis, Mo	1910
Kelley, J. G	Denver, Colo	1883
Kelley, John W	Portsmouth, N. H	1907
Kelly, Milton	Boise, Idaho	1884
Kennedy, John S	Corning, N. Y	1906
Kent, Charles W	University of Virginia, Charlottesville	1915
Kerfoot, L. S	United States assay office, Seattle, Wash	1908
Kimball, James P	Ex-Director of the Mint, Red Lodge, Mont	1895, 1911
Kinnicutt, Leonard A., Dr	Worcester, Mass	1905
Knox, Frank	Salt Lake City, Utah	1907
Knox, John J.[1]	Comptroller of the Currency	1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884
Knox, John Jay	New York, N. Y	1890
Kopp, Arthur W	Ex-Member of Congress from Wisconsin	1912, 1915
Kountze, Charles T	Omaha, Nebr	1912
Kunz, George F	New York, N. Y	1907, 1918

[1] Ex officio (sec. 3547, Rev. Stat.).

Lacey, Edward S	Member of Congress from Michigan	1885
Lacey, Edward S.[1]	Comptroller of the Currency	1890, 1891, 1892
Langley, John W	Schools of Applied Science, Cleveland, Ohio	1895
Lattimore, S. A	University of Rochester, N. Y	1879, 1900
Lawson, Andrew C	University of California, Berkeley, Calif	1916
Lawton, Israel	Oakland, Calif	1893
Lawyer, W. P	Bureau of the Mint, Washington, D. C	1882, 1883, 1884, 1885, 1886, 1887, 1888
Leach, Frank A	Oakland, Calif	1891
Leche, Edgar T	New Orleans, La	1910
Le Conte, John L	Philadelphia, Pa	1874
Leech, Edward O	Ex-Director of the Mint, New York, N. Y	1896
Leffman, Henry	Philadelphia, Pa	1889
Leisenring, A. W	Mauch Chunk, Pa	1877
Levitt, Albert	George Washington University	1921
Lewis, Fred E	Member of Congress from Pennsylvania	1914
Lilly, William	Mauch Chunk, Pa	1890
Linn, Talfourd P	Columbus, Ohio	1894
Liveright, Frank I	Newark, N. J	1922
Loevinger, Ludwig	White Lake, S. Dak	1904
Long, John G	St. Augustine, Fla	1893
Lowndes, Tasker G	Cumberland, Md	1922
Luedeking, Charles	St. Louis, Mo	1904
Mallet, J. W	University of Virginia, Charlottesville	1886, 1888, 1896
Manning, James H	Albany, N. Y	1909, 1910, 1911, 1912, 1913
Marshall, John	University of Pennsylvania, Philadelphia	1898
Martin, Henry T	Albany, N. Y	1886
Mason, Andrew	United States assay office, New York	1874, 1894, 1897
Mason, William P	Rensselaer Polytechnic Institute, Troy, N. Y	1896
Mathews, John A	Syracuse, N. Y	1900, 1905, 1911
Mayer, Alfred M	Stevens Institute, Hoboken, N. J	1888
McCaughey, William J	Washington, D. C	1909
McClintock, Jonas R	Pittsburgh, Pa	1876
McCracken, C. L	Johnstown, Ohio	1919
McCreary, James B	Member of Congress from Kentucky	1886
McDonald, Charles S	Sioux Falls, S. Dak	1912
McIntyre, George C	Omaha, Nebr	1919
McKean, W. V	Philadelphia, Pa	1884
McKinley, William B	Member of Congress from Illinois	1908, 1910
McLain, C. A	Harvard University	1921, 1923
McNeil, John L	Durango, Colo	1906, 1908, 1915, 1919
McPherson, D. A	Deadwood, S. Dak	1910
McPherson, J. B.[1]	Judge Eastern District of Pennsylvania	1900
McMichael, Morton	Philadelphia, Pa	1876
Mears, Leverett	Williams College, Williamstown, Mass	1898, 1908, 1909
Mendenhall, C. E	University of Wisconsin	1907
Mendenhall, T. C	Superintendent United States Coast and Geodetic Survey, Washington, D. C	1890
Merrick, J. M	Boston, Mass	1874, 1875
Merrill, George P	Washington, D. C	1919, 1921, 1922, 1923
Merrill, Owen	Enosburg Falls, Vt	1907
Merritt, E	Cornell University, Ithaca, N. Y	1907
Meservey, Stillman T	Fort Dodge, Iowa	1903
Metten, G. R	Helena, Mont	1891
Miller, Anson H	Fremont, Ohio	1880, 1881
Miller, Thomas B	Helena, Mont	1900
Mills, William W	Marietta, Ohio	1899
Mitchell, Henry	Roxbury, Mass	1890
Mitchell, S. Weir	Philadelphia, Pa	1909
Mitchelson, J. C	Tariffville, Conn	1901
Moore, Charles	Washington, D. C	1922
Moore, C. W	Boise, Idaho	1891
Moore, Waldo C	Lewisburg, Ohio	1912
Moreom, E. D	Sioux Falls, S. Dak	1917
More, Fred	Charleston, Ill	1910
Morfit, Clarence	New York, N. Y	1903
Morgan, Leonard P	Philadelphia, Pa	1914, 1915
Morgan, William Gerry	Washington, D. C	1922, 1923
Morley, Edward W	Hudson, Ohio	1875
Morris, Richard P	Salt Lake City, Utah	1919
Morton, Henry	Stevens Institute, Hoboken, N. J	1889
Moyle, James H	Salt Lake City, Utah	1916
Munford, Mrs. B. B	Richmond, Va	1920
Munroe, Charles E	United States Naval Academy, Annapolis, Md	1882
Munroe, Charles E	United States torpedo station, Newport, R. I	1892
Munroe, Charles E	Columbian University, Washington, D. C	1895
Munson, George C	Assayer, United States Mint, Denver, Colo	1889
Nason, Henry B	Rensselaer Polytechnic Institute, Troy, N. Y	1884
Newbury, Spencer B	Cornell University, Ithaca, N. Y	1887
Newell, Edward T	New York, N. Y	1919
Newhall, W. Mayo	San Francisco, Calif	1892
Nicholson, Frank	St. Louis, Mo	1888
Norwood, T. M	Member of Congress from Georgia	1888
Noyes, W. A	Bureau of Standards, Washington, D. C	1906
O'Neil, Joseph H	Boston, Mass	1918, 1920
Ordway, John M	Tulane University, New Orleans, La	1888
Owens, Wm. O	U. S. A. (retired), Washington, D. C	1915
Packard, Jasper	New Albany, Ind	1892
Page, Calvin	Portsmouth, N. H	1919

[1] Ex officio (sec. 3547, Rev. Stat.).

Page, Carroll S	Senator from Vermont	1910
Pancoast, Joseph	Philadelphia, Pa	1875
Patterson, C. Stuart	Philadelphia, Pa	1898
Pavey, Charles W	Springfield, Ill	1891
Payson, Lewis E	Member of Congress from Illinois	1883
Peirce, C. S	United States Coast and Geodetic Survey, Milford, Pa	1888
Pellew, Charles E	New York, N. Y	1888
Pepper, William	University of Pennsylvania, Philadelphia	1882
Perkins, George D	Sioux City, Iowa	1904
Perkins, Henry Cleveland	Washington, D. C	1907
Perrault, Joseph	Boise, Idaho	1912
Perry, Arthur L	Williams College, Williamstown, Mass	1894
Perry, John A	Southport, Conn	1900
Peters, Edward D., Dr	Cambridge, Mass	1910
Pettee, William H	University of Michigan, Ann Arbor	1889
Phelan, Joseph C	Lynn, Mass	1921
Phelan, Michael F	Member of Congress from Massachusetts	1919
Pittman, Vail	Tonopah, Nev	1919
Prescott, Albert B	University of Michigan, Ann Arbor	1885
Price, Thomas	San Francisco, Calif	1877, 1890
Prime, Frederick	Philadelphia, Pa	1894
Pritchett, Henry S	United States Coast and Geodetic Survey, Washington, D. C	1898, 1899, 1900, 1901
Puckett, W. J	Denver, Colo	1895
Pumpelly, Raphael	United States Geological Survey, Newport, R. I	1888
Putnam, John P	Boston, Mass	1877
Quarles, J. A	Washington and Lee University, Lexington, Va	1894
Quintero, Lamar C	New Orleans, La	1895
Rankin, S. B	South Charleston, Ohio	1904
Raymond, Rossiter W	New York, N. Y	1885
Reed, Byron	Omaha, Nebr	1890
Rees, John K	Columbia University, New York	1898
Remsen, Ira	Johns Hopkins University, Baltimore, Md	1881, 1886, 1897
Reyburn, John E	House of Representatives (Pennsylvania)	1907
Reynolds, Mrs. Katharine S	Winston-Salem, N. C	1921
Rich, E. H	Fort Dodge, Iowa	1900
Richards, Joseph W	Lehigh University, Bethlehem, Pa	1897
Richards, Robert H	Massachusetts Institute of Technology, Boston	1889
Richardson, Clifford	New York, N. Y	1903
Richardson, William A	United States Court of Claims, Washington, D. C	1883
Richev ,Zina	Yankton, S. Dak	1912
Ricketts, P. de P	Columbia College, New York	1881, 1883, 1899
Ridgeley, William B.[1]	Comptroller of the Currency	1903, 1906
Ringsrud, A. O	Elk Point, S. Dak	1907
Riordan, Daniel J	Member of Congress from New York	1912
Riordan, Joseph A	Harrison, N. J	1919
Rising, W. B	University of California	1903, 1906
Roberts, Ellis H	Treasurer of the United States	1905
Roberts, George E	New York City, ex-Director of the Mint	1916
Rogers, Robert E	Philadelphia, Pa	1874, 1875, 1876, 1877, 1878, 1879
Rose, John M	Member of Congress from Pennsylvania	1920
Rosecrans, William S	Member of Congress from California	1882
Rosenthal, Benjamin J	Chicago, Ill	1916
Rosewater, E	Omaha, Nebr	1897
Rothert, Hugo C	Huntingburg, Ind	1915
Root, George M	Sioux Falls, S. Dak	1909
Rounds, Will H	Sioux Falls, S. Dak	1918
Rourke, C. D	Urbana, Ill	1911
Rublee, Horace	Milwaukee, Wis	1893
Russell, Charles J	Burlington, Vt	1908
Russell, Frank B	Louisville, Ky	1923
Sackett, William A	Saratoga Springs, N. Y	1890
Salem, Pedro G	Philadelphia, Pa	1883
Scheeline, Harry Hall	Reno, Nev	1920
Schirmer, Jacob F. L	Assayer, United States mint, Denver, Colo	1875
Shafroth, John F	United States Senator from Colorado	1914
Shafroth, William	Denver, Colo	1917
Shaler, N. S	Harvard College, Cambridge, Mass	1885
Sharp, E. R	Columbus, Ohio	1905, 1906
Sharpe, Mrs. B. C	Greensboro, N. C	1922
Sheafer, P. W	Pottsville, Pa	1879
Shepard, Irwin	Winona, Minn	1891
Sherman, John, jr	Washington, D. C	1876
Shields, B. G.[1]	Assayer, U. S. Assay Office, New York	1922, 1923
Shinn, Owen Louis, Dr	University of Pennsylvania, Philadelphia	1907, 1910, 1911, 1912, 1913, 1914, 1915
Shinn, Frank	Columbus, Ohio	1908
Shup, Frank L	Newton, Ill	1914
Simpson, Kenneth M	San Francisco, Calif	1918
Smith, Albert L	Helena, Mont	1913
Smith, Carroll E	Syracuse, N. Y	1879
Smith, C. P	Burlington, Vt	1904
Smith, Edgar F	University of Pennsylvania, Philadelphia	1895, 1901, 1902, 1903, 1904, 1905
Smith, Joseph W	Philadelphia, Pa	1913
Smyth, George A	Vermont University, Burlington	1879
Snowden, A. Loudon	Philadelphia, Pa	1878, 1879, 1897, 1899

[1] Ex officio (sec. 3547, Rev. Stat.).

Sparkma, S. M	Member of Congress from Florida	1897
Spinney, L. B	Iowa State College	1914
Steele, Edward T	Philadelphia, Pa	1881
Stevenson, Andrew	Columbus, Ohio	1896
Stewart, G. W., Dr	State University, Iowa City, Iowa	1912
Stock, H. H	Scranton, Pa	1899
Stone, Charles W	Member of Congress from Pennsylvania	1896, 1898
Stotesbury, Edward T	Philadelphia, Pa	1903, 1905
Stratton, S. W., Dr	Massachusetts Institute of Technology	1901, 1902, 1903, 1904, 1922, 1923
Swasey, Ambrose	Cleveland, Ohio	1909, 1913, 1922
Taggart, Walter T	University of Pennsylvania	1922
Tatem, B. H	Helena, Mont	1904
Taylor, B. F	New Orleans, La	1874, 1883
Thomas, Douglas H	Baltimore, Md	1896
Thompson, J. Whitaker	United States District Judge for Eastern District of Pennsylvania	1919
Thompson, O. W	Vermilion, S. Dak	1905
Tiffany, J. Burr	New York, N. Y	1909
Tittmann, Otto H	United States Coast and Geodetic Survey, Washington, D. C	1901
Torrey, Herbert Gray [1]	Assayer, United States Assay Office, New York	1874, 1875, 1876, 1877, 1878, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910.
Tracy, Charles	Member of Congress from New York	1889
Traylor, Samuel W	Allentown, Pa	1920
Trenholm, William L. [1]	Comptroller of the Currency	1887
Truitt, Warren	Moscow, Idaho	1905
Tuttle, David K	Melter and refiner, United States mint, Carson, Nev	1888
Tuttle, Franklin E	State University, Lexington, Ky	1916
Twiggs, John W	San Francisco, Calif	1878, 1885
Tyler, George F	Philadelphia, Pa	1884
Underwood, R. A	Plainview, Tex	1920
Vance, Zebulon B	Senator from North Carolina	1888
Vaughan, G. E	Lynchburg, Va	1919, 1920
Vaux, George, jr	Bryn Mawr, Pa	1913
Venable, F. P	University of North Carolina	1901
Vestal, Albert H	Member of Congress from Indiana	1920, 1921, 1922, 1923
Vincent, H. B	McConnellsville, Ohio	1904
Vincent, Webb	Fort Dodge, Iowa	1901
Vinson, A. E	University of Arizona	1914
Voorheis, E. C	Sutter Creek, Calif	1904
Wainwright, J. H	New York	1895
Walker, Arthur L., Dr	Columbia University, New York	1911
Walker, Charles M	Indianapolis, Ind	1878
Walker, Francis A	Massachusetts Institute of Technology, Boston, Mass	1890
Walter, John D	Sparta, Ga	1912
Waring, Robert P	Assayer, United States assay office, Charlotte, N. C	1889
Warner, Willard	Tecumseh, Ala	1879
Webster, A. G	Clark University, Worcester, Mass	1903
Weed, George S	Plattsburg, N. Y	1887
Weiss, A. C	Duluth, Minn	1918
Wells, Horace L., Dr	Yale University, New Haven, Conn	1911
Welsh, Henry D	Philadelphia, Pa	1894
Wharton, Joseph	Philadelphia, Pa	1876, 1898, 1904
Wheeler, W. D	Augusta, Mont	1890
Wheelock, Joseph A	St. Paul, Minn	1880
White, I. C	University of West Virginia, Morgantown, W. Va	1892
White, Stephen M	Senator from California	1897
Whitehead, Cabell	Assayer, Bureau of the Mint, Washington, D. C	1891, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901
Wild, Henry F	Assayer, United States assay office, Boise, Idaho	1888
Wilder, John T	Chattanooga, Tenn	1892
Willkie, John E	Washington, D. C	1909
Wilcox, E. S	Peoria, Ill	1891
Wilson, P. B	Baltimore, Md	1893
Williams, David	Webster, S. Dak	1903
Williams, Gardner F	Washington, D. C	1909
Williams, John Skelton [1]	Comptroller of the Currency	1916, 1920
Winston, George T	University of North Carolina, Chapel Hill, N. C	1894
Wiswell, Andrew P	Ellsworth, Me	1893
Winchell, N. H	Minneapolis, Minn	1887
Winslow, Charles S	Chicago, Ill	1905
Wood, Ira W	Member of Congress from New Jersey	1909
Woodside, John W	Philadelphia, Pa	1894
Wright, Arthur W	Yale College, New Haven, Conn	1887
Yates, Henry W	Omaha, Nebr	1892
Yost, Jacob	Member of Congress from Virginia	1899
Young, Stephen J	Brunswick, Me	1890
Zerbe, Farran	Tyrone, Pa	1909, 1923

[1] Ex officio (sec. 3547, Rev. Stat.).